

# User Manual For LCD Monitor

**March 10, 2004**

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## General Safety Precautions

This monitor has been engineered and manufactured to assure your safety. Please read this manual carefully and comply with the warnings and the procedures to avoid serious electrical shock or other serious damage.

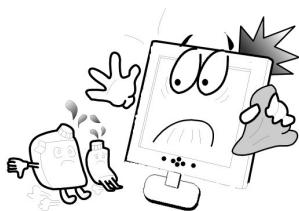


1. Do not place anything heavy, wet or magnetic on the monitor or power cord. Do not cover the ventilation openings nor touch them with metallic or flammable material.



2. High temperature can cause damage. Avoid operating the monitor in extreme heat, humidity or dust areas. Extreme temperature may cause discoloration or damage.

Ambient Temperature: 0°C – 40°C



3. To prevent damaging the LCD surface, do not use solvents such as benzene to clean the monitor.



4. To prevent scratching the LCD surface, do not use tools with a fine tip, such as a pin or pencil near the monitor.



5. Place the monitor on a flat surface to prevent it from falling.



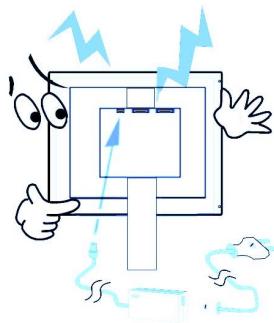
6. Do not apply any mechanical shocks to the machine.



7. Install it in a well-ventilated area or secure enough space for ventilation.



8. Make sure the power cord and any other cords are properly connected to a grounded outlet.



- 9.** Turn the monitor off before connecting it to the power outlet.



- 10.** Overloaded AC outlets and extension cords are dangerous. Also, frayed power cords and broken plugs can cause electric shock or fire.



- 11. CAUTION: RISK OF ELECTRIC SHOCK, DO NOT OPEN.**

Do not open the monitor. There are no user-serviceable components inside. There is risk of exposure to high-voltage electricity inside, even when power is turned off.

If the display monitor does not operate properly, unplug the power cord and contact your dealer. Handling the electrical equipment carelessly will cause serious electrical shock and other hazards.

## Unpacking Your Monitor

Always make sure the following items are included with your monitor. If you find that any of these items are missing or appear damaged, contact your dealer immediately.



Figure 1. Monitor and Accompanying Items

*Note: The power cord can be different depending upon different voltage areas.*

## Viewing Angle

Your monitor is designed to allow you to adjust it to a comfortable viewing angle. The viewing angle can be adjusted  $3^\circ$  to  $45^\circ$  forward and backward respectively as indicated by the arrow marks in the following illustration.



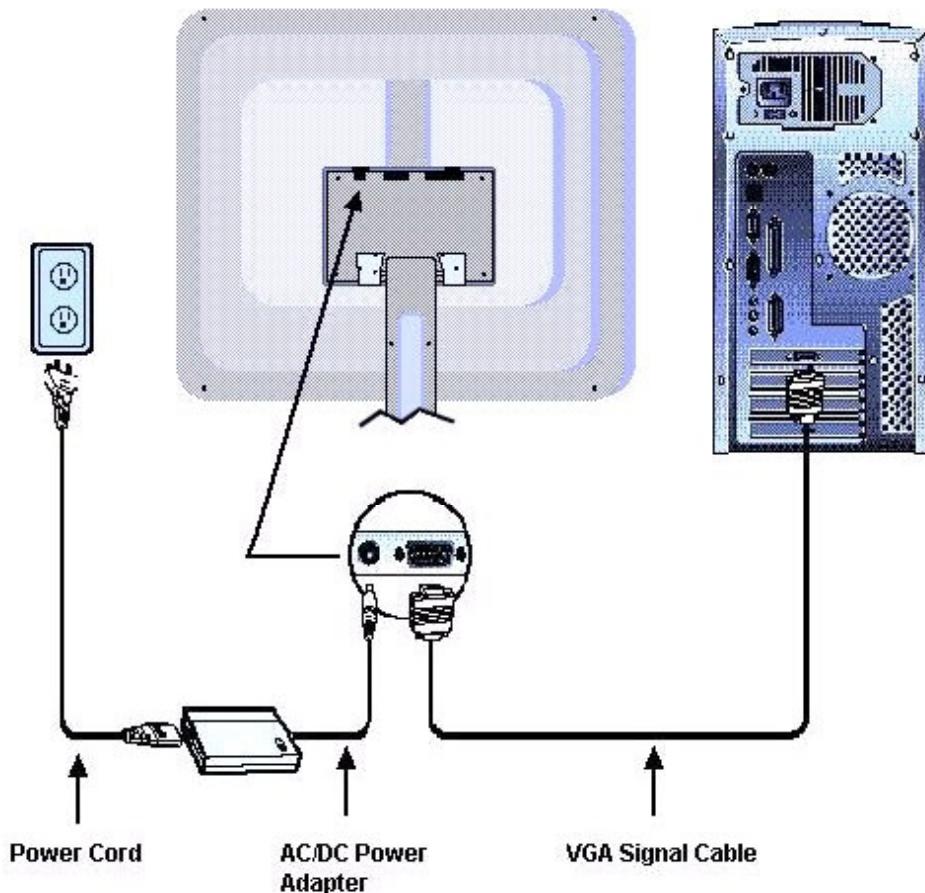
**Figure 2. Viewing Angles**

***CAUTION: When the monitor is in use, always make sure that it is at a safe angle less than 45 degrees.***

## Connecting Your Monitor

***Note: Always turn the computer off before connecting the monitor.***

The AC adapter may be optional and any ITE or Direct Plug-in Power Supply with maximum output ratings of 12VDC and 40 Watts may be used with the monitor.



**Figure 3. Connecting the Monitor**

- Connect the power adaptor cord to the monitor and then to the power supply.
- After powering on the computer, adjust the display using the various controls provided. For further information on the installation procedure, refer to the operating guide of the computer being used.

## Removing the Rear Cover

Always replace the rear cover of the monitor after accessing the input/out connectors.

**Note:** When returning the rear cover to the back of the monitor, be sure to hook the bottom of the cover first and then snap the top into place.

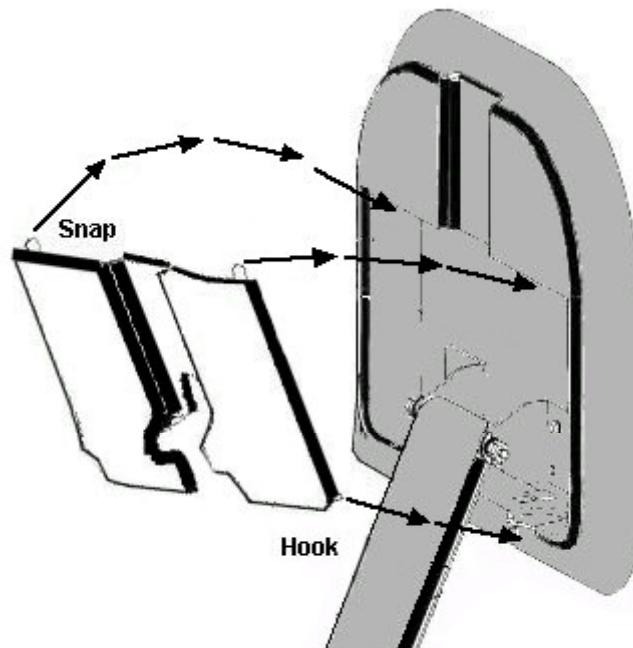


Figure 4. Rear Cover

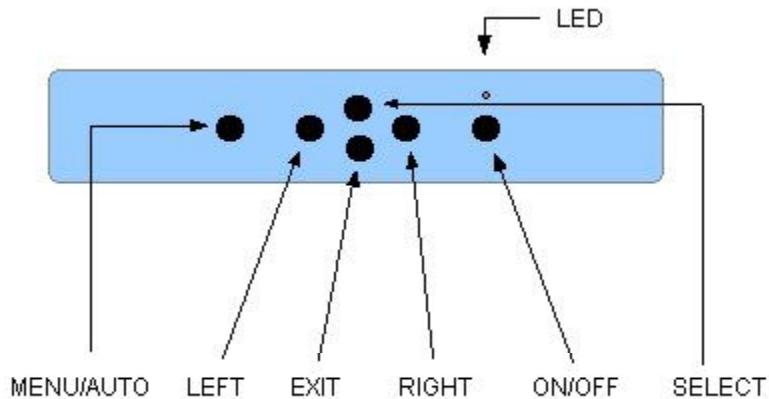
## Quick Start for Monitor Adjustment

To obtain the best viewing on your monitor, press and hold Auto Adjust button for four seconds. Your monitor will self-adjust to your computer. After it self-adjust you press the select button when the Green Smiley face is displayed, this saves the auto-adjusted values.

## Using the Front Panel Control Buttons

See Figure 5 for control button identification and Table I for control button descriptions.

Use the buttons on the face of the monitor to access and navigate through the On Screen Display (OSD).



**Figure 5. Front Panel Control Buttons**

**Table I. Front Panel Control Buttons Description**

Name	Description
<b>AUTO</b>	<i>Activates the auto adjustment function. To activate Auto Adjust, press and hold button for more than three seconds.</i>
<b>MENU</b>	<i>Opens the OSD (On Screen Display) menu. Press and simply release the button-do not hold button down.</i>
<b>SELECT</b>	<i>Selects the main menu items and sub-menu items.</i>
<b>EXIT</b>	<i>Exits the ODS menu.</i>
<b>LEFT</b>	<i>Moves to the left of the menu item. Increases the value of the parameter.</i>
<b>RIGHT</b>	<i>Moves to the right of the item. Decreases the value of the parameter.</i>
<b>LED</b>	<i>Indicates the status of the monitor:</i> <ul style="list-style-type: none"> <li>• Green: Normal operation</li> <li>• Amber: Non-operational</li> <li>• Red: No signal and/or power saving mode.</li> </ul>
<b>ON/OFF</b>	<i>Turns On/Off the monitor.</i>

**Notice:** When power cord is plugged in the monitor, the LED is always on. The LED will display three different colors, each will indicate the status of the monitor as below:

**Green:** Normal operation.

**Amber:** The ON/OFF switch has been selected in the OFF position. The monitor is non-operational and in power saving mode.

**Red:** NO input signal is detected. The monitor will automatically enter the power saving mode.

## OSD Functions

### ***On Screen Display (OSD)***

The OSD Menu provides access to controls that allow you to fine tune your monitor. The menu includes the following:

- Reset
- Audio (optional based upon the model of the monitor)
- Brightness/Contrast
- Color
- Image Shape
- On Screen Display

The OSD contains four major components (see Figure 6 and Figure 7):

#### ***Main Menu***

The Main Menu is the top level of the OSD. Each menu icon contains a series of settings used to adjust your display.

#### ***Settings***

Settings for each Main Menu icon appear as a sub-menu beneath the icon when it is highlighted.

#### ***Adjustments***

Adjustments for each Setting appear when *Setting* is highlighted. Most settings use a slider adjustment or a green dot to indicate active setting.

#### ***Accept/Reject***

Selecting the Accept (green HAPPY face) icon saves setting changes and exits the OSD.  
Selecting the Reject (red SAD face) icon disregards the setting change (returns previous setting) and exits the OSD.

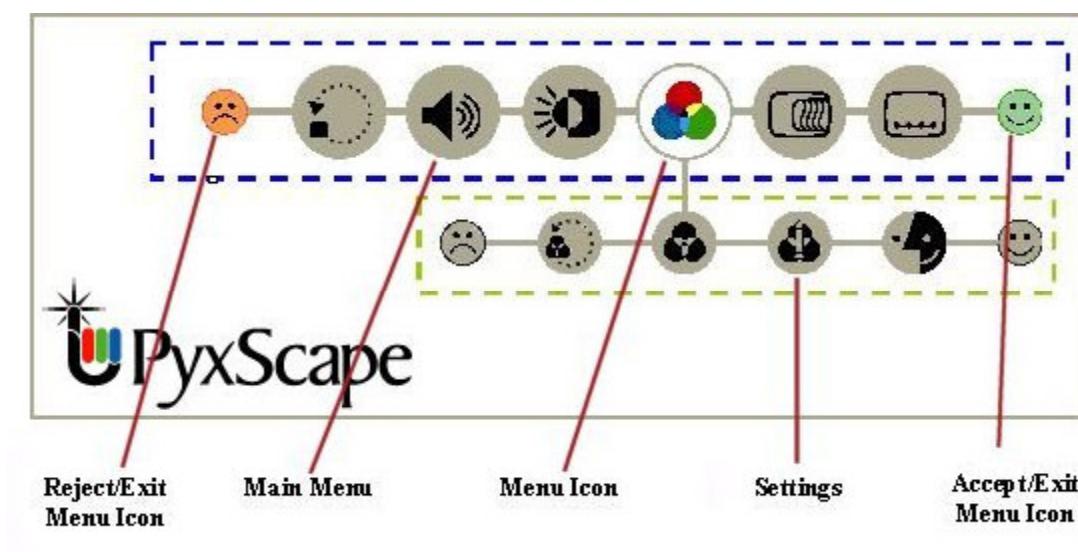


Figure 6. Main Menu Active

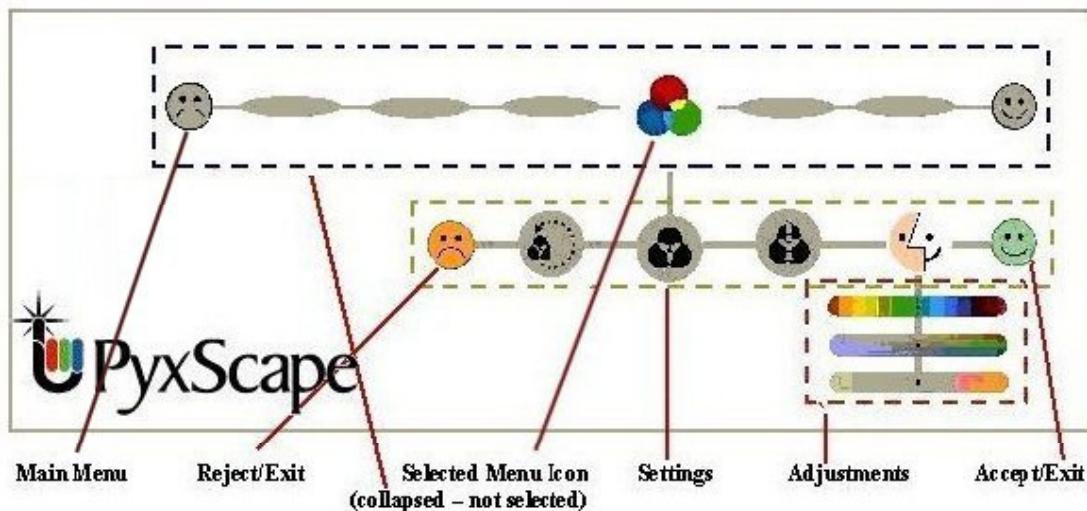


Figure 7. Settings Active

## Using the OSD

**Note:** Refer to the button names and parts of the OSD for visual reference of the following descriptions (see Figure 8).

### Enter the OSD

- Press the Menu button to display the OSD Main Menu.
- Active Main Menu will have the Green Accept/Exit (happy face) and Red Reject/Exit (sad face) Menu Icons.
- Active Main Menu will display highlighted Menu Icon with grayed out Settings beneath.
- Use the Left and Right buttons to highlight different Menu Icons. Highlight the Green Accept/Exit (happy face) and Red Reject/Exit (sad face) Menu Icons and press the Select button to exit the OSD.
- If no buttons are pressed OSD will timeout in 20 seconds.

### To Select Desired Settings When Settings are Active

- Press the Select button to select desired Settings.
- Main Menu Icons not selected will collapse.
- Accept/Exit (happy face) and Reject/Exit (sad face) Menu Icons will be grayed out on Main Menu.
- Settings will have the Green Accept/Exit (happy face) and Red Reject/Exit (sad face) icons.
- Highlighted Setting will display Adjustment(s) beneath the Setting.
- Use the Left and Right buttons to highlight desired Setting.

### To Select Adjustment

- Press the Select button.
- If a setting has multiple Adjustments, press the Select button to switch between adjustments.
- Use the Left and Right buttons to change Adjustment.
- Press the Select button to complete change.
- To save change and exit the OSD - use the Right buttons to highlight the Accept/Exit (green happy face), press the Select button.
- To discard change and exit the OSD - use the Left buttons to highlight the Reject/Exit (red sad face), press the Select button

### Menu Icons/Settings/Adjustments

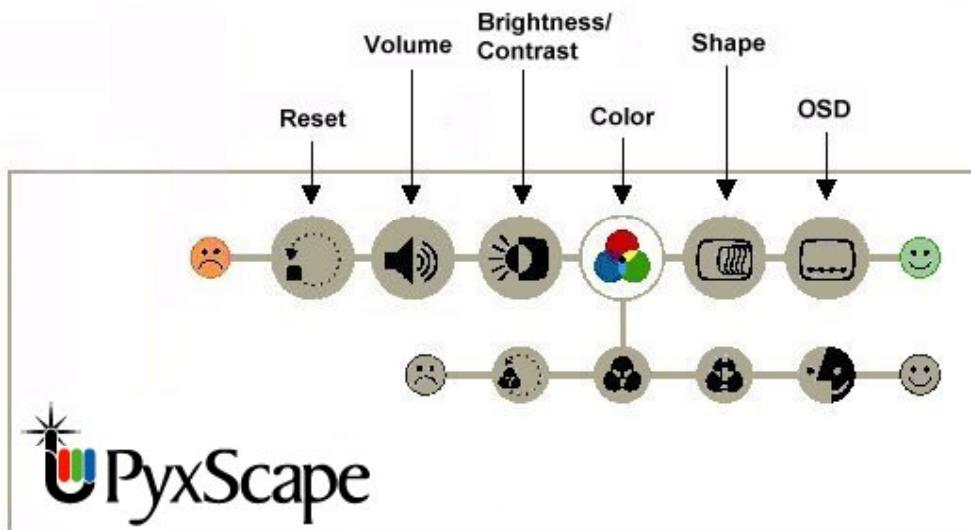


Figure 8. Menu Icons/Settings/Adjustments Screen

*Note: Depending on the features of your monitor and the configuration of the OSD used, some OSD menu icons may not appear.*

**Reset**



**Reset** settings (see

Table II) are used to return one or all of the monitor adjustments to the manufacturers original default settings.

These settings have no adjustments. Use the **Left** or **Right** buttons to highlight the desired setting, and then press the **Select** button. After selecting a reset setting, you are given the opportunity to preview the change before you Accept or Reject the change.

**Table II. Reset Settings**

	<b>Auto Adjust -</b> Resets ALL user-defined settings: Source, Audio, Bright/Contrast, Color, Shape, and OSD.
	<b>Shape Reset -</b> Resets the Phase, Clock, Horizontal Position, and Vertical Position settings.
	<b>Color Reset -</b> Resets the RGB Adjust, Color Temperature, and Natural Color settings.
	<b>OSD Reset -</b> Resets the Timeout, Lock, and OSD Position settings.

**Volume**



**Note:** This option is dependent upon the model of the monitor.

The **Audio** settings (see Table III) are used to control the speakers contained in your monitor.

**Table III. Volume Settings**

	<b>Volume-</b> Adjusts the volume of the speakers in your monitor.
	<b>Balance -</b> Switches between the left and right speakers in your monitor.
	<b>Mute -</b> A toggle switch that enables or disables the speakers in your monitor.

**Brightness/Contrast**



**Brightness** and **Contrast** settings (see Table IV) determine how much detail you will see in the shadow and highlight areas. To maximize the visible detail in the images, adjust the brightness and contrast controls on your monitor so that all objects on the screen are clearly visible.

**Table IV. Brightness/Contrast Settings**

	<b>Brightness -</b> Controls the brightness of the entire screen. Adjusts the brightness of the backlight.
	<b>Contrast -</b> Controls the brightness for each color at the same time.

**Note:** *Contrast applies a scale factor to the red, green, and blue signals. It affects the luminance that is reproduced for a full white input signal.*

Adjust the Contrast so you can see each step separately.



Pay more attention to the black steps here. The darkest step should be as dark as you can make it while still being able to distinguish it from the next lighter step.

**Color**



**Color** settings (see Table V) are used to modify the color characteristics on the screen.

**Table V. Color Settings**

	<b>RGB Adjust -</b> Adjusts each color parameter for red, green, and blue.
	<b>Natural Color -</b> Allow you to fine tune color. Adjusts the purity of the color's hue, moving from gray to the pure color.
	<b>Color Temperature -</b> Temperature describes how warm (red) or cool (blue) the picture display looks. Lower numbers indicate a warmer color temperature.
	<b>Reset Color -</b> Resets the RGB Adjust, Color Temperature, and Natural Color settings to factory defaults.

## ***Image Shape***



***Image Shape*** settings (see Table VI) are used to adjust the position and clarity of the display. While your monitor should come optimized from the factory, it may be necessary to manually adjust the display image on your monitor.

Adjusting the display image is a progressive process. It may not be necessary to complete all steps to achieve an optimized display. Work your way through the following steps or select the steps that address your problem until you achieve an image that meets your needs.

### **1. *Shape Reset***

If the image on your monitor is distorted or not centered, first try the reset option.

### **2. *Adjust the Image Position***

If the image on your monitor is not centered, use the Horizontal and Vertical position adjustments to position the display image so that there is a uniform 1/8-inch border between the outer frame of the display image and the monitor bezel.

### **3. *Removing Image Noise (Analog Input)***

If the image on your monitor appears to have intermittent horizontal or vertical lines running through it or if the image appears to flicker, use the Course Adjust and Fine Adjust Settings to remove the noise.

**Table VI. Image Shape Settings**

	<b><i>Shape Reset -</i></b> Resets the Shape settings to factory defaults: Course Adjust, Fine Adjust, Horizontal Position, and Vertical Position.
	<b><i>Horizontal Position -</i></b> Adjusts the horizontal position of the screen image.
	<b><i>Vertical Position -</i></b> Adjusts the vertical position of the screen image.
	<b><i>Course Adjust -</i></b> Removes vertical lines (noise) that may appear on the screen.
	<b><i>Fine Adjust -</i></b> Removes horizontal noise (flicker). Adjust after making Course adjustments.

***OSD***

***On Screen Display*** settings (see Table VII) let you customize where and how long the OSD is displayed on your screen, and allow you to block access to the OSD preventing accidental changes to the display.

**Table VII. OSD Settings**

	<b><i>OSD Lock -</i></b> The Lock is used to prevent accidental changes to the OSD. When you try and access the OSD with the lock is enabled a locked and unlocked icon appears in place of the OSD. To unlock the OSD, highlight and select unlock to enable access.
	<b><i>OSD Timeout -</i></b> Sets the timeout period for the OSD (the length of time the OSD is displayed with no user input).
	<b><i>OSD Position -</i></b> Change the display position of the OSD.
	<b><i>OSD Reset -</i></b> Returns OSD settings (i.e., Lock, Timeout, Position) to the factory defaults.

## Warnings

### ***Change Computer Hz***

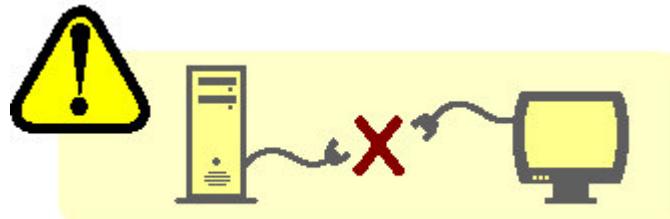
The refresh frequency describes how often the video screen is retraced in order to prevent the image from flickering. The entire image area of most monitors is refreshed approximately 60 times per second. A higher refresh frequency reduces any flicker on your screen, but choosing a setting that is too high for your monitor can make your display unusable and may cause damage to your hardware.



**IMPORTANT:** If you see this warning, change the refresh rate in your monitor settings on the PC to 60Hz.

### ***Cable Not Connected***

Powering on the monitor without connecting it to a PC will display this warning.



**IMPORTANT:** If you see this warning, turn off the monitor and check the connection to the PC.

**Mode Error**

This warning indicates that the monitor does not recognize the signal it is receiving.



**IMPORTANT:** If you see this warning, contact the monitor manufacturer.

## APPENDIX

### ***Power Management Function***

This monitor is equipped with a DPMS (Display Power Management Signaling) function that automatically cuts power usage to less than 5W when the computer is left unattended.

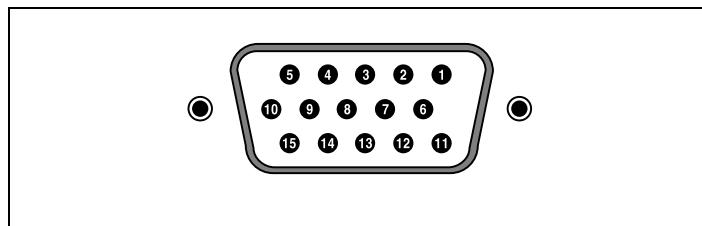
Although the monitor can remain in power-saving mode for longer periods, we recommend that you turn it off after your daily work.

**Table VIII. Power Mode Descriptions**

Status	Description
<i>Green</i>	<i>Power on</i>
<i>Amber</i>	<i>Non-operating /abnormal operating</i>
<i>Red</i>	<i>Power saving</i>

### ***Video Input Terminal***

A 15Pin D-Sub connector is used as the input signal connector as in Figure 9. Each pin and assignment is shown in Table IX.



**Figure 9. 15Pin D-Sub Connector**

**Table IX. Pin Number and Signal Names**

Pin No.	Signal Name	Pin No.	Signal Name
1	<i>RED</i>	9	<i>N.C.</i>
2	<i>GREEN</i>	10	<i>GROUND</i>
3	<i>BLUE</i>	11	<i>GROUND</i>
4	<i>GROUND</i>	12	<i>DDC SDA</i>
5	<i>GROUND</i>	13	<i>H-Sync</i>
6	<i>RED Ground</i>	14	<i>V-Sync</i>
7	<i>GREEN Ground</i>	15	<i>DDC SCL</i>
8	<i>BLUE Ground</i>		

***Display Modes***

Supported Display Modes

**Table X. Preset Timing Modes**

Mode	Display Mode	Horizontal Frequency (KHz)	Vertical Frequency (Hz)	Standard Type
<b>VGA</b>	640 x 350	31.5KHz	70Hz	IBM®
	720 x 400	31.5KHz	70Hz	IBM®
	640 x 480	31.5KHz	60Hz	Industry Standard
	640 x 480	37.9KHz	72Hz	VESA Standard
	640 x 480	37.5KHz	75Hz	VESA Standard
	640 x 480	43.3KHz	85Hz	VESA Standard
<b>SVGA</b>	800 x 600	35.2KHz	56Hz	VESA Guidelines
	800 x 600	37.9KHz	60Hz	VESA Guidelines
	800 x 600	48.1KHz	72Hz	VESA Standard
	800 x 600	46.9KHz	75Hz	VESA Standard
	800 x 600	53.7KHz	85Hz	VESA Standard
<b>XGA</b>	1024 x 768	48.4KHz	60Hz	VESA Guidelines
	1024 x 768	56.5KHz	70Hz	VESA Standard
	1024 x 768	60.0KHz	75Hz	VESA Standard
<b>SXGA</b>	1280 x 1024	64.0KHz	60Hz	VESA Standard
	1280 x 1024	80.0KHz	75Hz	VESA Standard

**Table XI. MAC Modes**

Mode	Display Mode	Horizontal Frequency (KHz)	Vertical Frequency (Hz)	Standard Type
VGA	640 x 480	31.469KHz	59.940Hz	MAC
SVGA	832 X 624	49.725KHz	74.551Hz	MAC
XGA	1024 x 768	48.780KHz	60.001Hz	MAC
	1024 x 768	60.241KHz	74.927Hz	MAC
SXGA	1152 x 870	68.681KHz	75.060Hz	MAC

## Specifications

**Table XII. Specifications for 17-Inch Monitor SV 3170**

<b>LCD</b>	<b>Size</b>	17.0" viewable
	<b>Resolution</b>	SXGA 1280 x 1024
	<b>Brightness</b>	250cd/m <sup>2</sup>
	<b>Contrast ratio</b>	450:1 (Typical)
	<b>Viewing angle</b>	140° horizontal x 110° vertical
	<b>Surface</b>	Anti-glare, H3 hard coating
	<b>Color</b>	8 bit color depth: 16.2 millions colors
<b>INPUT</b>	<b>Video</b>	Analog
<b>COMPATIBILITY</b>	<b>PC</b>	PC compatibles from VGA up to 1280 x 1024 non-interlaced.
	<b>Mac™</b>	MAC™ up to 1152 x 870
<b>IO CONNECTOR</b>	<b>Video</b>	Analog: 15-pin mini d-sub
	<b>Power</b>	DC In (external)
<b>AUDIO (SV 3170s)</b>		Two 1w speakers (2w max)
<b>POWER</b>		Consumption 35W (max)
<b>USER CONTROLS</b>	<b>Menu</b>	Menu>Select/Exit/Right/Left/Power
	<b>Auto</b>	Auto Adjust
<b>DIMENSIONS</b>	<b>Physical</b>	14" (W) x 15" (H) x 7" (D)
<b>WEIGHT</b>		4.2 kg (9.2 lbs)
<b>OPTIONAL FEATURES</b>		Optional VESA wall mount; bracket is optional.
<b>AGENCY CERTIFICATIONS</b>		CE, CB, UL1950, CSA C22.No.950, FCC-B, EPA ENERGY STAR® PROGRAM
<b>POWER MANAGEMENT</b>		VESA DPMS
<b>WARRANTY</b>		12 months limited warranty
<b>ACCESSORIES</b>		User Manual/Warranty Registration card on CD disk.